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ABSTRACT

This report presents data on the plans and expectations, preparation and course-taking patterns, college enrollment rates, and college persistence and completion of minorities in comparison with the majority, white population. The data reported show the following: (1) that while almost all high school seniors expect to complete at least some college, Hispanic seniors are less likely to plan to attend college right after high school; (2) that black and Hispanic graduates are less likely than white peers to make an immediate transition to college with Hispanics more likely to enroll in two-year colleges; (3) that white and Asian/Pacific Islanders are more likely than black and Hispanic counterparts to persist toward a bachelor's degree; (4) that black and American Indian/Alaskan Native graduates are less likely than white and Asian/Pacific Islanders to earn a bachelor's degree in 4 years or less; (5) that while several minority groups major in fields that will help them recoup college costs, black, Hispanic, and Asian/Pacific Islanders are less likely than whites to major in education, with the last-named group more likely than whites to major in computer science and engineering. The report also reviews an alternative approach to assessing these data. (Contains 35 references.) (CH)

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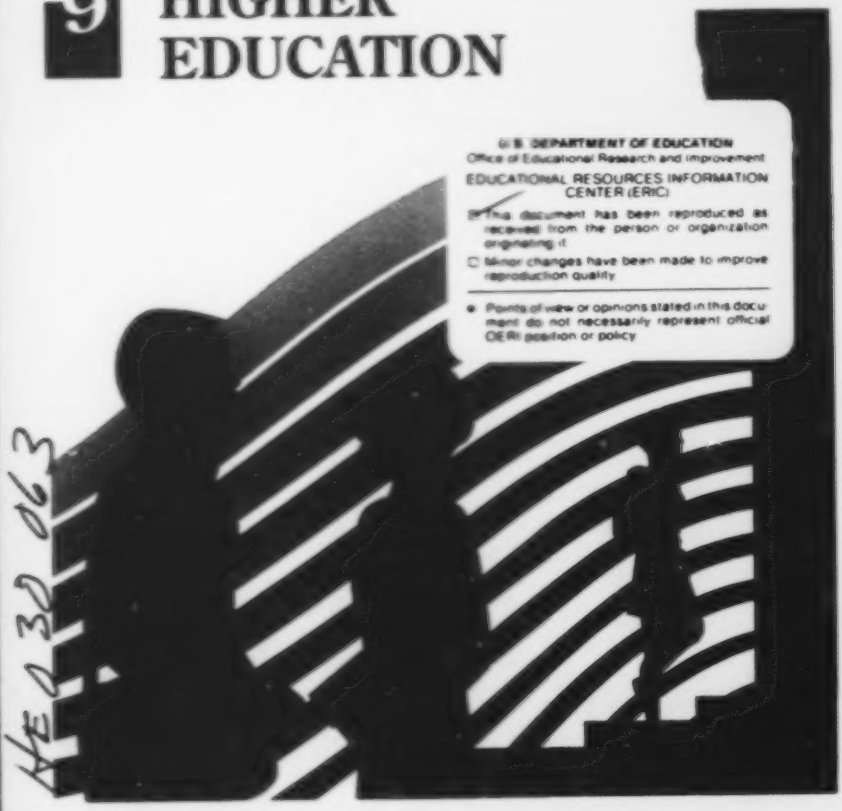
NO. 9

MINORITIES IN HIGHER EDUCATION



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The text in this booklet was written by Thomas M. Smith of the Data Development and Longitudinal Studies Group of NCES and appears in ***The Condition of Education, 1996.*** *Andrea Livingston, Karyn Madden, and Barbara Kridl edited the text, and Leslie Retallick, Don Eike, and Mary Sukkestad designed the graphics and layout.*

Minorities in Higher Education

Minorities in the United States have long suffered lower economic prosperity and social status compared to the white majority. Higher education often serves as the best means of social mobility available to our nation's youth. For example, graduating from college is associated with more stable patterns of employment and higher earnings. As the gap in earnings between high school and college graduates continues to widen, college has become even more important for minorities who are trying to enter into a globally competitive labor market. This essay reviews the higher education aspirations and preparation, college enrollment, persistence, and completion rates of minorities in comparison with the majority white population. For the purpose of this essay, the Office of Management and Budget (OMB) standard classification scheme is used, and the categories of black, Hispanic, Asian/Pacific Islander, and American Indian/Alaskan Native are used to denote racial/ethnic minority groups. In the data used for many comparisons, however, the sample size of the two latter groups is too small for them to be reported separately and therefore they are not shown.

Plans and Expectations

- **The proportion of all high school seniors in minority groups who planned to continue their education at 4-year colleges and universities directly after high school increased between 1972 and 1992, although between-group differences have remained fairly constant.**

Although many students decide whether or not to attend college early in their high school careers, students' plans as high school seniors are likely to reflect their previous academic performance, their financial means, and their educational and career goals. In both 1972 and 1992, similar proportions of black and white seniors planned to attend 4-year colleges and universities the following year. Although the proportion of Hispanic seniors who planned to attend a 4-year college increased by 9 percentage points between 1972 and 1992, the corresponding proportion for whites increased 20 percentage points—widening the gap between Hispanic and white plans. In 1992, Asian/Pacific Islander seniors were more likely than white seniors to plan to attend a 4-year college immediately after high school graduation.

A larger proportion of black and Hispanic seniors planned to attend an academic program the next year at a 2-year college in 1992 than in 1972: the proportion of black seniors increased from 5 percent to 11 percent, while the proportion of Hispanic seniors increased from 11 to 26 percent. However, no change occurred among white seniors during this time period. In 1992, Hispanic seniors were more likely than their white peers to plan to attend a 2-year academic program.

Percentage of high school seniors who planned to continue their education the next year at 4-year colleges or in academic programs at 2-year colleges

	4-year program		2-year academic program	
Race/ethnicity	1972	1992	1972	1992
Total	**34**	**54**	**11**	**13**
White	35	55	12	12
Black	32	52	5	11
Hispanic	11	20	11	26
Asian/Pacific Islander	47	65	18	12

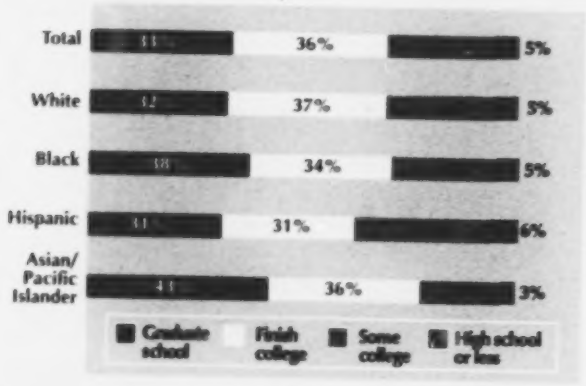
SOURCE: National Longitudinal Study of 1972 and National Education Longitudinal Study of 1988, Second Follow-up.

Students take many factors into account when selecting a college, including financial considerations such as the cost of attendance and the availability of financial aid. The percentage of black, white, and Hispanic seniors who reported that tuition and expenses were very important considerations in selecting a college declined between 1972 and 1992. On the other hand, the proportions of Asian/Pacific Islander seniors who reported that tuition and fees were important factors did not differ significantly between the two time periods. Availability of financial aid, however, remained very important over this time period for black and Hispanic seniors. In 1992, black and Hispanic seniors were more likely to say that financial aid was a very important consideration in selecting a college (67 and 62 percent, respectively) than were white seniors (40 percent).[1]

- **The proportion of high school students in all racial and ethnic groups expecting to complete only high school or less fell dramatically between 1972 and 1992, while the proportion expecting to graduate from college increased.**

Students' long-term expectations for education may differ substantially from their short-term plans. While not all high school seniors plan to attend college immediately after graduation, nearly all students expect to continue their education eventually. The proportion of seniors expecting to at least finish college ranged from 62 percent for Hispanics to 79 percent for Asian/Pacific Islanders in 1992. Since 1972, the proportions of white, black, and Hispanic seniors who expected to complete college increased by 20 percentage points, compared to an increase of 9 percentage points for Asian/Pacific Islander seniors.[2] Even though educational plans and expectations are generally high among white, black, Hispanic, and Asian/Pacific Islander high school seniors, wanting to go to college is only the first step—preparing to go to college is the second step.

Percentage of 1992 high school seniors expecting to complete various levels of education



SOURCE: National Education Longitudinal Study of 1988, Second Follow-up.

Preparation and Course-Taking Patterns

Success in higher education depends on good preparation in high school.[3] The level of courses taken in high school, as well as the level of academic achievement near the end of high school, are measures of students' preparedness for higher education.

- **Students from all minority groups are taking a more rigorous curriculum than in the past, although black, Hispanic, and American Indian/Alaskan Native students continue to trail their Asian/Pacific Islander and white counterparts in advanced mathematics and science course taking.**

Examining the transcripts of high school graduates shows if the academic rigor of the courses they take has changed over time. The average number of academic course units earned by public

high school graduates increased between 1982 and 1992 for all racial and ethnic groups. In 1992, Asian/Pacific Islander graduates earned the most academic credits (18.5), while American Indian/Alaskan Native graduates earned the least (16.0); this range is equivalent to five semester courses. White graduates earned 17.6 credits compared to Hispanic and black graduates, who earned 16.9 and 16.7 credits, respectively.[4]

This renewed emphasis on academic course taking also is reflected by the increase in the percentage of high school graduates taking the "New Basics" curriculum—a core curriculum compromising 4 units of English and 3 units each of science, social studies, and mathematics recommended by the National Commission on Excellence in Education in *A Nation at Risk*.[5] The proportion of 1994 high school graduates who took this core curriculum ranged from about 44 percent for blacks, Hispanics, and American Indians/Alaskan Natives to about 54 percent for whites and 57 percent for Asian/Pacific Islanders. This represents a substantial increase from 1982, when 14 percent of graduates took this stringent a curriculum.

Percentage of high school graduates taking the "New Basics" curriculum

Race/ethnicity	1982	1987	1990	1994
Total	**14.0**	**28.3**	**39.6**	**50.6**
White	15.5	29.3	40.6	53.6
Black	11.5	24.1	41.5	44.7
Hispanic	6.7	16.8	30.4	43.8
Asian/ Pacific Islander	21.3	45.6	48.7	56.6
American Indian/ Alaskan Native	6.5	24.6	21.6	43.6

NOTE: The panel's recommendation of 0.5 units of computer science is not included here.

SOURCE: NCES, *The 1994 High School Transcript Study Tabulations: Comparative Data on Credits Earned and Demographics for 1994, 1990, 1987, and 1982 High School Graduates*, 1996.

Students in all racial and ethnic groups are taking more advanced mathematics and science courses, although black, Hispanic, and American Indian/Alaskan Native graduates still trail their Asian/Pacific Islander and white counterparts in advanced mathematics and science course taking. From a course-taking perspective at least, it appears that all racial and ethnic groups are better prepared for college today than they were in the early 1980s.

- **The reading skills of white seniors are better than those of their minority counterparts. Although the gap in white-black and white-Hispanic scores has narrowed somewhat, large differences still remain.**

Course taking is only one component of preparing for college; the skills that students gain from those classes is another important measure of their readiness to enter college. For example, a student must be able to comprehend and effectively use written language before taking on a more advanced college curriculum. There is substantial variation in average reading proficiency among seniors from different racial and ethnic groups. In 1994, for instance, the reading proficiency of white seniors was higher than Asian/Pacific Islander seniors, who, in turn, scored higher than their black and Hispanic counterparts. However, the reading proficiency scores of American Indian/Alaskan Native seniors were not statistically distinguishable from their Asian/Pacific Islander and Hispanic peers.[6]

Reading proficiency scores for white, black, and Hispanic 17-year-olds are available for the years between 1975 and 1992. Although the reading gap between whites and their black and Hispanic counterparts remains wide, this gap has narrowed over time.[7] In fact, the reading skills of white, black, and Hispanic 17-year-olds have all increased since the mid-1970s with the scores of black and Hispanic students increasing more than those of their white peers.[8] There is some evidence, however, that the white-minority gap in reading is no longer narrowing.[9]

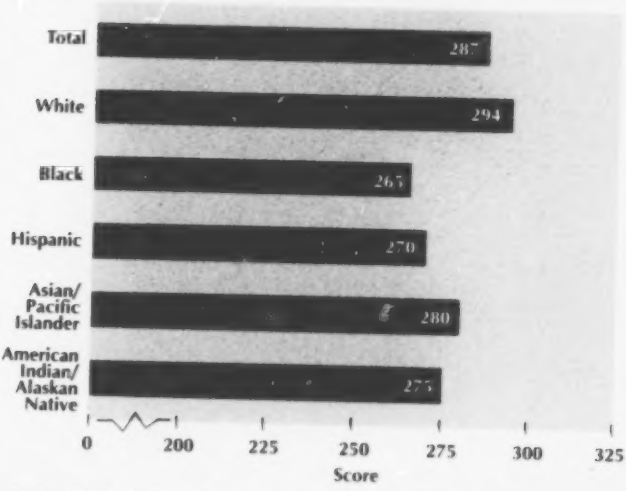
Percentage of high school graduates taking selected mathematics and science courses in high school, by race/ethnicity: 1982 and 1994

	White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native
1982[1]					
Algebra II	36.0	22.0	18.0	45.6	10.8
Trigonometry	13.7	6.0	6.4	26.8	3.0
Analysis/ pre-calculus	6.8	2.2	2.8	14.5	1.8
Calculus	5.4	1.3	1.7	12.8	4.0
AP calculus	1.8	0.3	0.4	5.5	0.1
Biology and chemistry	31.3	19.7	14.2	48.5	21.9
Biology, chemistry, and physics	12.2	4.8	3.9	28.4	7.8
1994					
Algebra II	61.6	43.7	51.0	66.6	39.2
Trigonometry	18.6	13.6	9.8	25.3	6.7
Analysis/ pre-calculus	18.2	9.8	13.9	33.9	8.7
Calculus	9.6	3.8	6.0	23.4	3.8
AP calculus	7.3	2.0	4.6	21.0	2.2
Biology and chemistry	56.4	42.2	45.1	64.8	39.6
Biology, chemistry, and physics	22.7	13.0	13.4	37.2	8.0

[1]Numbers were revised from previously published figures.

SOURCE: NCES, *The 1994 High School Transcript Study Tabulations: Comparative Data on Credits Earned and Demographics for 1994, 1990, 1987, and 1982 High School Graduates*, 1996.

Average reading proficiency of seniors: 1994



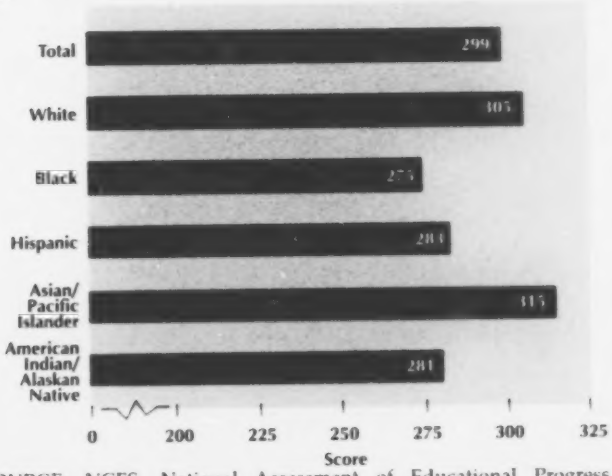
SOURCE: NCES, National Assessment of Educational Progress, 1994 Reading Assessment.

- **Among high school seniors, both Asian/Pacific Islanders and whites have higher mathematics proficiency than Hispanics, American Indians/ Alaskan Natives, and blacks. Over the past 20 years, however, scores for whites have increased at a slower rate than those for blacks and Hispanics, thereby causing this gap to narrow.**

Proficiency in mathematics allows students to use higher level thinking skills to solve complex problems. If students do not have a firm grasp of mathematics upon leaving high school, they will be at a disadvantage when trying to master technical material in college. Among the senior class of 1992, both Asian/Pacific Islanders and whites had higher mathematics proficiency scores than their Hispanic, American Indian/Alaskan Native, and black peers.[10]

For the years 1973–92, mathematics trend data are available for white, black, and Hispanic 17-year-olds. These data suggest that although there is a large gap in mathematics proficiency at age 17 between whites and their black and Hispanic peers, that gap is narrowing. Among white 17-year-olds, mathematics proficiency declined between 1973 and 1982, but has since rebounded. On the other hand, the mathematics scores of black and Hispanic 17-year-olds were level from 1973 to 1982, but have increased sizably between 1982 and 1992—narrowing the gap between the scores of blacks and Hispanics and their white counterparts.[11]

Average mathematics proficiency of seniors: 1992



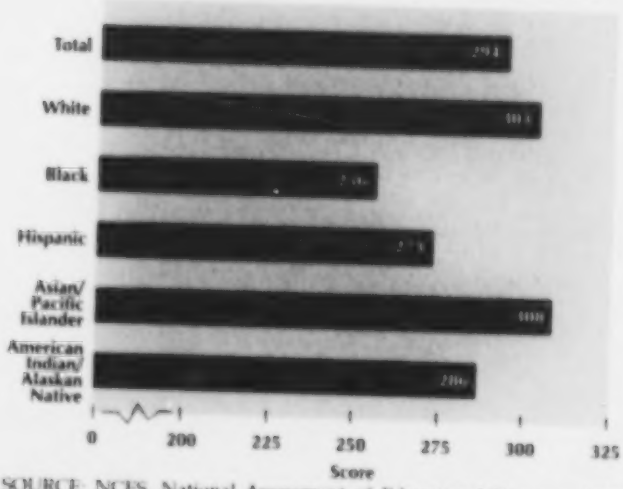
SOURCE: NCES, National Assessment of Educational Progress, 1992 Mathematics Assessment.

- **With the exception of Asian/Pacific Islanders, large gaps in science proficiency exist between whites and other racial/ethnic groups. Science scores for most groups have increased since the early 1980s.**

The ability to apply scientific information, interpret data, and make inferences about scientific findings is a prerequisite for

entry into most scientific fields. Adequate preparation in science in high school can influence success in college-level biology, chemistry, and physics—courses that often serve as gateways to many scientific fields, including medicine and engineering. For the senior class of 1990, science proficiency scores are available for all racial/ethnic groups. Scores for white and Asian/Pacific Islander seniors were higher than those for black and Hispanic seniors. However, the average science proficiency of American Indian/Alaskan Native seniors was lower than that of white students, higher than the average science proficiency of black students, and not significantly different from the average science proficiency of Asian/Pacific Islander and Hispanic students.[12]

Average science proficiency of seniors: 1990



SOURCE: NCES, National Assessment of Educational Progress, 1990 Science Assessment.

Trend data on science proficiency are available for whites and blacks starting in 1970 and for Hispanics starting in 1977. These data demonstrate that between 1970 and 1982, the science proficiency of white and black 17-year-olds declined, but scores for both groups have risen since then. In 1992, the science proficiency

of white 17-year-olds was still below their 1970 level, while the scores of blacks had fully regained ground. Moreover, between 1977 and 1982, scores for Hispanics declined, but have since rebounded.[13]

- **Average SAT scores for minority test-takers have improved over the past 20 years, especially for college-bound blacks and American Indians/Alaskan Natives.**

The Scholastic Assessment Test (SAT) is designed to predict success in the freshman year of college and is used in college admissions. The SAT measures not only the skills of those who could potentially go to college but also the skills of those who actually plan to go. Since 1976, the mean SAT scores of black test-takers have risen 24 points on the verbal section and 34 points on the mathematics section, while the mean scores of whites have fallen 3 points on the verbal section and have risen 5 points on the mathematics section. American Indians/Alaskan Natives also had relatively large increases in SAT scores over this time period: 15 points on the verbal section and 27 points on the mathematics section.[14]

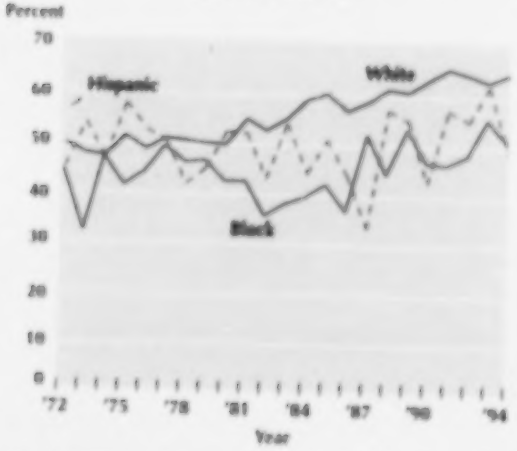
College Enrollment Rates

- **Blacks and Hispanics are less likely than whites to make an immediate transition from high school to college.**

Since most college students enroll in college immediately after completing high school, the percentage of high school graduates enrolled in college the October following graduation is an indicator of the total proportion who will ever enroll in college. College enrollment rates reflect the accessibility of higher education to high school graduates, as well as their assessment of the relative value of attending college compared to working, enter-

ing the military, or other possible pursuits. Enrollment rates for white high school graduates increased from 50 percent in the early 1970s to about 60 percent in the mid-1980s and have fluctuated between 60 and 65 percent since then. After a period of decline in the late 1970s and early 1980s, the percentage of blacks enrolling in college immediately after high school graduation rose again until the late 1980s, when it appeared to have leveled off at around 50 percent. Between 1972 and 1994, Hispanic enrollment rates have mostly fluctuated between 45 and 55 percent.

Percentage of high school graduates aged 16–24 who were enrolled in college the October following graduation: October 1972–94



SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

The type of institutions that high school graduates first attend can affect their likelihood of completing a bachelor's degree. Students who begin their higher education at a 2-year college are far less likely to earn a bachelor's degree than their counterparts who begin at a 4-year college.[15] In 1994, white graduates were twice as likely to enroll in a 4-year college as a 2-year college after

high school, while black graduates were about 1.5 times as likely and Hispanic graduates were equally likely to enroll in a 4-year college.[16]

- **Although the proportion of 1980 high school sophomores who made the immediate transition to college after high school varied by race/ethnicity, the proportion who delayed entry into college did not differ measurably for whites, blacks, Hispanics, and Asian/Pacific Islanders.**

Although most college students first enrolled in college in the fall following their high school graduation, a sizable number delayed entry to college. Research has shown that delayed entry is negatively associated with earning a bachelor's degree.[17] Although the proportion of 1980 high school sophomores who started at 4-year or 2-year public institutions in the fall of 1982 varied by race/ethnicity, the proportion who delayed was similar for whites, blacks, Hispanics, and Asian/Pacific Islanders—about 14 percent each. A larger proportion of American Indians/Alaskan Natives (25 percent) were more likely to delay entry.[18]

- **Higher education enrollment rates of high school graduates aged 18–24 have risen substantially for whites and moderately for blacks, although whites are still more likely to enroll than blacks or Hispanics. Enrollment rates among older adults are similar for whites, blacks, and Hispanics.**

Racial and ethnic differences in the college enrollment rates may reflect variations in access to and persistence in higher education. Between 1972 and 1994, white high school graduates aged 18–24 were more likely to be enrolled in college than were their black and Hispanic counterparts. Between 1992 and 1994, the average enrollment rate for whites was 9 percentage points higher than

Percentage distribution of 1980 high school sophomores according to the timing, enrollment status, and institution type of their initial enrollment in postsecondary education, by race/ethnicity as of spring 1992

Time of entry and type of institution	Total	Race/ethnicity				
		White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native
Total	**100**	**100**	**100**	**100**	**100**	**100**
Immediate entry (fall 1982)						
Full-time 4-year	23.4	25.6	18.9	11.1	40.6	8.4
Full-time public 2-year	10.5	11.0	8.8	9.5	16.1	6.1
Part-time 4-year	1.1	1.1	0.7	1.4	2.1	0.2
Part-time public 2-year	4.1	4.4	2.8	3.8	7.0	2.8
Other[1]	5.0	5.3	4.3	4.6	2.8	3.0
Delayed entry[2]						
4-year	4.2	4.1	5.1	3.8	3.7	9.2
Public 2-year	10.3	10.1	9.7	10.7	11.1	16.6
Other[1]	5.9	5.5	8.6	6.1	3.3	5.2
Other enrollment[3]	1.9	1.7	2.5	2.1	0.8	2.5
No entry by spring 1992	33.6	31.2	38.7	46.9	12.5	46.0

[1]Includes less-than-4-year institutions other than public 2-year.

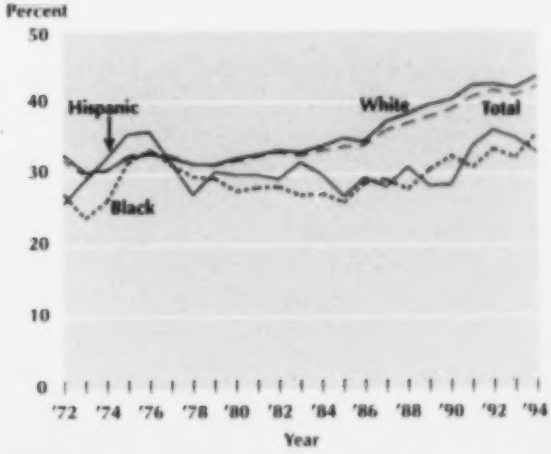
[2]Student first enrolled in postsecondary education after October 1982 and before spring 1992.

[3]Includes students who could not be placed in one of the other categories, usually because information on timing of enrollment was missing.

SOURCE: NCES, High School and Beyond (HS&B) study 1980 Sophomore Cohort, Base Year, First, and Fourth Follow-up surveys.

that of blacks and 8 percentage points higher than that of Hispanics. White enrollment rates for this age group have grown substantially since 1981, while enrollment growth for blacks and Hispanics grew moderately over this period.

Percentage of 18- to 24-year-old high school graduates enrolled in college: October 1972–94



SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Enrollment rates for older adults (high school graduates aged 25 or older) generally were much lower than those for their younger counterparts aged 18–24 regardless of racial/ethnic group. Between 1992 and 1994, the average college enrollment rates were similar for white, black, and Hispanic high school graduates aged 25–34.[19]

- **Hispanic college students are more likely to be enrolled part-time than their white or black peers.**

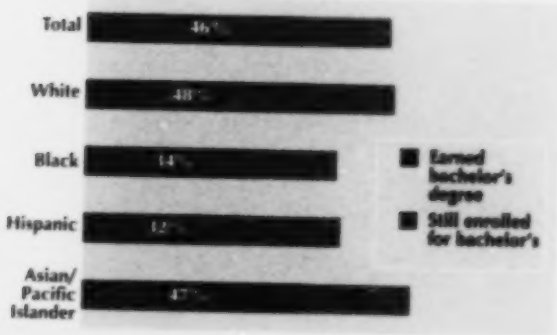
Students who initially enroll part-time in college are less likely to persist toward a bachelor's degree than those who enroll full time.[20] Hispanic high school graduates aged 18–24 were far more likely to be enrolled in college part time, rather than full time, than were their white or black counterparts in 1994.[21]

College Persistence and Completion

- **Among bachelor's degree seekers, whites and Asian/Pacific Islanders are more likely to persist toward a bachelor's degree than are their black and Hispanic counterparts.**

Half of all students beginning postsecondary education at 2- or 4-year colleges indicate that their initial degree goal is a bachelor's degree.[22] Among beginning students seeking bachelor's degrees in 1989–90, 63 percent had either completed or were still enrolled

Percentage of 1989–90 first-time bachelor's degree seekers who had earned a bachelor's degree or were still enrolled toward a bachelor's degree in spring 1994



SOURCE: NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

in spring 1994. An additional 8 percent had earned an associate's degree or a vocational certificate and were not working toward a bachelor's degree. Whites and Asian/Pacific Islanders were more likely than blacks or Hispanics to have either earned a bachelor's degree or still to be working toward a bachelor's degree in spring 1994.

Percentage distribution of 1989–90 beginning postsecondary students seeking bachelor's degrees according to persistence toward and completion of bachelor's and other degrees as of spring 1994, by race/ethnicity

Race/ethnicity	Completed a degree				Still enrolled for bachelor's[2]	Total no degree, not enrolled toward a bachelor's
	Highest degree completed[1]			Total any degree		
	Bachelor's	Associate's	Certificate			
Total	**45.8**	**5.1**	**3.3**	**54.3**	**17.5**	**28.3**
White	48.1	4.9	3.3	56.4	16.6	27.0
Black	34.3	7.3	3.6	45.2	18.0	36.8
Hispanic	32.4	3.5	5.4	41.3	22.1	36.6
Asian/Pacific Islander	46.8	5.3	0.6	52.8	21.8	25.5
American Indian/Alaskan Native	–	–	–	–	–	–

—Too few sample observations for a reliable estimate.

[1]Includes students who are no longer working toward a bachelor's degree, but who had completed another type of degree or award.

[2]Includes students who had completed another type of degree or award (associate's degree: 11.8 percent, certificate: 2.7 percent), but are still working toward a bachelor's degree.

SOURCE: NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

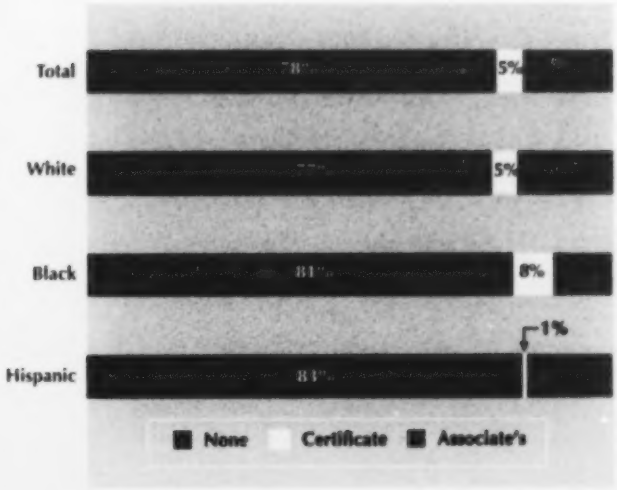
The proportion of bachelor's degree seekers who were no longer enrolled toward a bachelor's degree in spring 1994 but had earned associate's degrees or vocational certificates were similar for whites, blacks, Hispanics, and Asian/Pacific Islanders, although the latter were less likely to earn vocational certificates. Of 1989–90 bachelor's degree seekers who had not earned a degree and were no longer enrolled toward a bachelor's degree in spring 1994, blacks were more likely to have been enrolled for 18 months or less (57 percent) than were their white, Hispanic, or Asian/Pacific Islander counterparts (36, 40, and 37 percent, respectively).[23]

- **Of those who began their postsecondary education at a community college in 1989–90, whites and blacks were less likely than Hispanics to have either earned a degree or certificate or still to be enrolled for one by spring 1994.**

About 44 percent of undergraduates attend public 2-year colleges. These institutions serve many purposes: they provide vocational training and skill development; they offer an inexpensive way to complete lower division requirements before entering a 4-year institution; and they meet purely avocational interests. Among students who began their postsecondary education at a community college in 1989–90, less than one-quarter had completed an associate's degree or vocational certificate there by spring 1994, although 37 percent had completed an award at some institution. Those who did not complete an award at this community college spent a substantial amount of time there, however, averaging 14 months of enrollment.[24]

White community college students were more likely to earn an associate's degree at their first institution by spring 1994 than their black counterparts (18 and 11 percent, respectively).[25] Hispanics completed associate's degrees at their first institution at a rate similar to whites, but were less likely to earn vocational certificates there.

Among 1989–90 beginning students at community colleges, percentage distribution according to attainment at first institution, by race/ethnicity

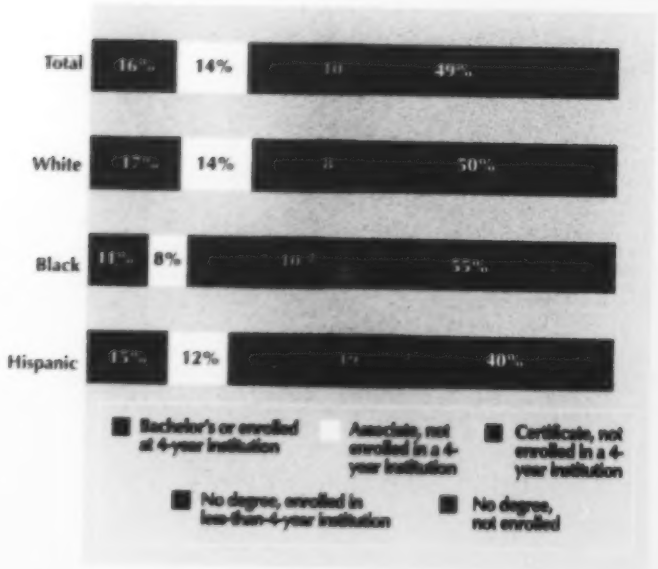


SOURCE: NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

Both blacks and whites, however, were more likely to have neither earned an award nor still be enrolled for one by spring 1994 (55 and 50 percent, respectively) than were Hispanics (40 percent).[26]

Four out of 10 first-time, beginning community college students transfer to another institution—half to a 4-year college or university and half to a less-than-4-year institution.[27] Transfer rates for whites and blacks were similar, both around 40 percent.[28] Differences between white and Hispanic transfer rates were not statistically significant. Hispanics were more likely than whites, however, to transfer to a less-than-4-year institution as opposed to a 4-year institution.[29]

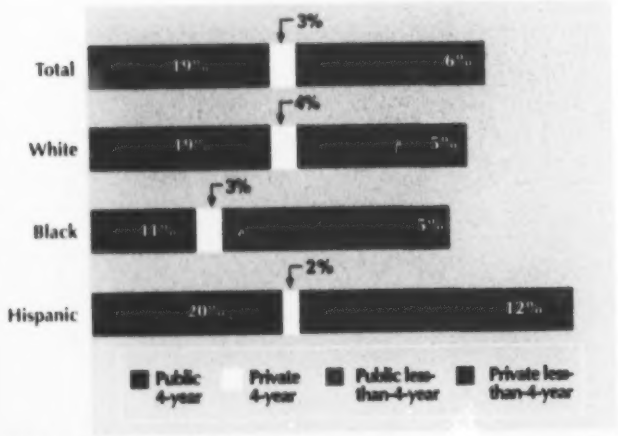
Among 1989–90 beginning students at community colleges, percentage distribution according to 1994 attainment at any institution, by race/ethnicity



SOURCE: NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

In spring 1994, 17 percent of white students, 11 percent of black students, and 15 percent of Hispanic students who had started in a community college in 1989–90 had either earned a bachelor's degree or were enrolled in a 4-year college or institution.[30]

Percentage of 1989–90 first-time community college students who transferred to another institution by spring 1994, by destination of first transfer



SOURCE: NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

- **Compared to 1981 levels, the number of bachelor's degrees earned in 1993 was up for males and females in all racial/ethnic groups. The increase was greater for females than males in each racial/ethnic group.**

The ability of colleges and universities to attract minority students who will then graduate is important to the goal of equal opportunity. Changes in the number of degrees earned by minorities of both sexes, particularly in relation to the number earned by whites, provides a measure of higher education's progress toward this goal. Compared to 1981 levels, the number of bachelor's degrees earned in 1993 was up for males and females in all racial/ethnic groups, with the largest increases occurring for Asian/Pacific Islander and Hispanic males and females (two groups with large immigration rates). Between 1981 and 1993, Hispanic, Asian/Pacific Islander, and American Indian/Alaskan Native males and females showed higher percentage gains in the number of bachelor's degrees earned than did whites of the same sex.[31]

Number of bachelor's degrees conferred (in thousands)

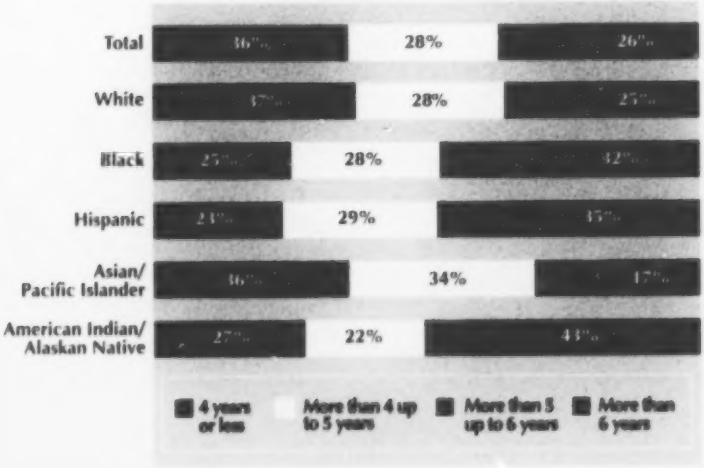
Race/ ethnicity	Male			Female		
	1981	1993	Percent change	1981	1993	Percent change
White	406.2	435.1	7.1	401.1	512.2	27.7
Black	24.5	28.9	17.8	36.2	49.0	35.5
Hispanic	10.8	19.9	83.8	11.0	25.5	131.5
Asian/ Pacific Islander	10.1	25.3	150.3	8.7	26.2	201.3
American Indian/ Alaskan Native	1.7	2.4	44.1	1.9	3.2	70.2

SOURCE: Integrated Postsecondary Education Data System (IPEDS).

- **Black and American Indian/Alaskan Native college graduates were less likely than their white and Asian/Pacific Islander peers to have completed their bachelor's degree program in 4 years or less.**

The traditional time to complete most bachelor's degree programs is 4 years. However, a number of circumstances such as changing schools or majors, stopping out for periods of time, attending on a part-time basis, or having difficulty enrolling in required classes may delay graduation. Taking longer to complete college not only causes students to incur additional tuition costs, but also delays them in starting their careers. Blacks and American Indian/Alaskan Native students are less likely than their white and Asian/Pacific Islander counterparts to complete college in 4 years or less. Among 1993 bachelor's degree recipients, 4 out of 10 American Indian/Alaskan Native graduates took longer than 6 years to complete college, while 2 out of 10 Asian/Pacific Islander graduates took that long to complete college.[32]

Percentage of college graduates completing the bachelor's degree within various years of starting college: 1993

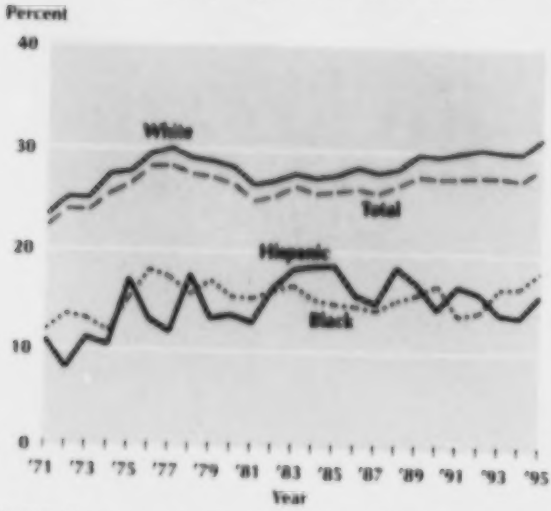


SOURCE: NCES, 1993 Baccalaureate and Beyond Longitudinal Study, First Follow-up (B&B:93/94).

- **Educational attainment rates for white, black, and Hispanic young adults have risen since the early 1970s, although young adult whites are still far more likely to have completed college than their black and Hispanic counterparts.**

Differences in college enrollment and persistence rates across racial/ethnic groups are reflected in educational attainment figures for young adults. The proportion of white, black, and Hispanic 25- to 29-year-olds with either some college or more or a bachelor's degree or more rose between 1971 and 1995. Whites in this age group were still almost twice as likely as their black and Hispanic counterparts to have earned a bachelor's degree in 1995.

Percentage of 25- to 29-year-olds who earned a bachelor's degree: March 1971–95



SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys.

- **Asian/Pacific Islander college graduates were more likely than whites to have majored in engineering and computer science (a relatively high paying field). Black, Hispanic, and Asian/Pacific Islander graduates were less likely than whites to major in education (a relatively low paying field).**

Career opportunities available to college students are affected by the fields they choose to study. For college graduates, both starting salary[33] and the degree to which job opportunities have career potential[34] are related to college major. In 1993, Asian/Pacific Islanders were far more likely than whites to major in biological/life sciences, computer and information sciences, or engineering, but were far less likely to major in education. Black bachelor's degree recipients were more likely than their white counterparts to major in business management, but were less likely to major in

education. Hispanic bachelor's degree recipients were more likely than whites to major in the social sciences or history, but were less likely to major in education. American Indian/Alaskan Native bachelor's degree recipients were more likely than whites to major in the humanities or social sciences and history, but were less likely to major in business management.[35]

Percentage distribution of bachelor's degrees conferred, by field of study: 1993

Field of study	All	White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native
All fields	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Biological/ life sciences	4.1	3.8	3.6	4.1	10.1	3.8
Business management	22.1	21.6	24.6	21.1	22.9	18.5
Computer and information sciences	2.1	1.7	2.9	1.9	4.5	1.5
Education	9.3	10.2	7.2	6.6	2.1	11.4
Engineering	5.3	4.8	3.4	5.1	12.7	3.2
English language and literature	4.8	5.2	3.9	3.9	3.1	4.1
Health sciences	5.8	6.0	6.1	4.4	4.9	6.1
Humanities	2.9	2.8	3.5	4.2	2.0	4.5
Mathematics	1.3	1.3	1.3	1.0	1.8	1.0
Physical sciences	1.5	1.5	1.1	1.0	2.2	1.6
Psychology	5.8	5.8	6.1	7.0	5.0	6.1
Social sciences and history	11.7	11.6	12.8	13.4	11.1	13.6
Other	23.3	23.6	23.6	26.5	17.6	24.5

SOURCE: Integrated Postsecondary Education Data System (IPEDS).

College Access, Participation, and Completion: An Alternative Approach

An alternative approach to the experiences of minorities in postsecondary education is to look back at two high school graduating classes when each class reached age 30. The Postsecondary Education Transcript Studies (PETS) were conducted in 1984 for the high school class of 1972 and in 1993 for the high school class of 1982. Transcripts were requested from each member of the two graduating classes who reported attending a postsecondary institution. The transcripts provide information on courses taken, credits earned, and degrees completed and provide a rich source of information about the experiences of these two groups in postsecondary education. The information in the table below was compiled on the basis of these two studies.

First, consider the proportion of each class for whom transcripts were received. This statistic can be interpreted as the proportion of the class who had access to postsecondary education. The percentage increased from 60 for the class of 1972 to 70 percent for the class of 1982. Note that this statistic includes both those who enrolled in higher education immediately after high school graduation as well as those who delayed entry for up to 10 years. The increase is evident for whites, blacks, Hispanics and Asian/Pacific Islanders.

Second, consider the proportion of each class who completed more than 10 postsecondary credits. This statistic can be interpreted as the proportion who participated significantly in higher education and corresponds roughly to those who completed the equivalent of at least one full-time semester. This percentage also increased between the two classes from 51 percent to 62 percent. Note that between 12 and 15 percent of those who attend a higher education institution did not complete more than 10 credits. Again, the increase is evident for whites, blacks, Hispanics, and Asian/Pacific Islanders.

Access, participation, and completion in postsecondary education for the high school class of 1972 as of 1984 and the high school class of 1982 as of 1993

	Total	White	Black	Hispanic	Asian/ Pacific Islander
Percentage with 1 or more postsecondary transcripts					
1972	60	61	54	53	77
1982	70	73	62	58	92
Change	+10	+12	+8	+5	+14
Percentage with more than 10 completed postsecondary semester credits					
1972	51	53	42	43	70
1982	62	65	54	48	84
Change	+11	+12	+11	+5	+15
Percentage who attended a 4-year institution and completed more than 10 credits					
1972	37	38	30	24	54
1982	44	47	35	26	66
Change	+8	+9	+5	+2	+12
Percentage with a baccalaureate or higher degree					
1972	24	26	14	11	43
1982	29	32	15	13	52
Change	+4	+6	0	+2	+9
Percentage with a bachelor's degree or higher degree among those who attended a 4-year institution and completed more than 10 credits					
1972	66	68	49	44	81
1982	65	68	42	49	79
Change	-1	0	-7	+5	-2

NOTE: Transcripts were collected at approximately age 30 for each high school graduating class. American Indians/Alaskan Natives and others are included in the total but are not shown separately.

SOURCE: NCES, Postsecondary Education Transcript Studies of the National Longitudinal Study of the High School Class of 1972 and the High School and Beyond (HS&B) Sophomore Cohort, 1984 and 1993.

Third, consider the proportion of each class who completed more than 10 credits and attended a 4-year institution. This statistic can be interpreted as the proportion who had an opportunity to earn a bachelor's degree. This percentage is substantially lower than the percentage with significant participation as defined above—44 versus 62 percent in the class of 1982, for example. However, the percentage did increase between the two classes from 37 to 44 percent. While this increase was confined principally to whites and Asian/Pacific Islanders, it should be noted that, in both generations, Hispanics attended community colleges at a higher rate than other groups.

Fourth, consider the proportion of each high school graduating class that completed a bachelor's degree or higher. Though associate's degrees are important credentials for many individuals, a bachelor's degree is associated with significant long-term economic advantages. This percentage increased moderately between the two classes from 24 to 29 percent. The increase was confined to whites. (Although it appears there was an increase for Asian/Pacific Islanders as well, the small samples of Asian/Pacific Islanders in the studies preclude a definitive conclusion.)

Finally, among those who attended a 4-year institution and completed more than 10 credits, consider those who completed a bachelor's degree or higher. This is the proportion who had the opportunity to earn a bachelor's degree. Overall, there was no change in this proportion between the two generations: 66 percent for the class of 1972 and 65 percent for the class of 1982. Among racial/ethnic groups, however, there is evidence of a decline for blacks—from 49 to 42 percent. (Although it appears there was an increase in degree completion rates for Hispanics, the small sample sizes of Hispanics in the studies preclude a definitive conclusion.)

SUMMARY

As the gap in earnings between high school and college graduates continues to widen, access to a college education is becoming even more important for minorities wanting to share in the American dream. Almost all high school seniors expect to complete at least some college, although Hispanic seniors are less likely than their white, black, and Asian/Pacific Islander counterparts to plan to attend college right after high school. High school graduates from all racial and ethnic groups are taking a more rigorous high school curriculum, and mathematics and science test scores are generally up—although blacks, Hispanics, and American Indians/Alaskan Natives continue to trail their white and Asian/Pacific Islander counterparts in important skill areas.

However, black and Hispanic high school graduates are less likely than their white peers to make the immediate transition to college and Hispanics are more likely to enroll in a 2-year college or as part-time students—two conditions that make it less likely they will persist toward a bachelor's degree. Among bachelor's degree seekers, whites and Asian/Pacific Islanders are more likely to persist towards a bachelor's degree than their black and Hispanic counterparts. Of those who earn a bachelor's degree, black and American Indian/Alaskan Native graduates are less likely than their white and Asian/Pacific Islander peers to finish in 4 years or less—a condition that delays their entrance into the full-time labor market.

Several minority groups do tend to major in fields that will help them recoup their college costs. Black, Hispanic, and Asian/Pacific Islander graduates were less likely than whites to major in education. Asian/Pacific Islander graduates were more likely than white graduates to major in computer science and engineering.

References

[1]U.S. Department of Education, NCES, *Trends Among High School Seniors, 1972–1992*, table 3.3a.

[2]Ibid., table 4.1.

[3]Of the students in the high school class of 1982 who completed more than 10 credits in higher education, the percentage who completed a bachelor's degree was strongly related to the number of remedial courses the person took at postsecondary institutions. Among those who took no remedial courses, 57 percent completed a bachelor's degree. Among those who took three or more remedial courses, roughly 25 percent completed their degree. Remedial courses include remedial writing, remedial reading, remedial speech, developmental grammar, ESL, all pre-collegiate mathematics, and basic academic and developmental study skills. Data are from NCES, Postsecondary Education Transcript Studies of the High School and Beyond Study (HS&B), Sophomore Cohort, 1993.

[4]*The Condition of Education 1994*, 72, based on NCES, The 1969 Study of Academic Growth and Prediction, High School and Beyond Transcript Study, 1987 NAEP High School Transcript Study, National Educational Longitudinal Study Transcripts, 1992.

[5]The panel's recommendation of 0.5 units of computer science was not included here, because the use of computers has been integrated into many other courses.

[6]*The Condition of Education 1996*, 76, based on NCES, National Assessment of Educational Progress, *1994 Reading Report Card for the Nation and the States*, 1996.

[7]*The Condition of Education 1995*, 54, based on NCES, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1992; Mathematics, 1973 to 1992; Reading, 1971 to 1992; and Writing, 1984 to 1992*, 1994.

[8]Ibid.

[9]Between 1992 and 1994 the reading proficiency of black and Hispanic 12th graders fell 8 and 9 points respectively, while the reading proficiency for white 12th graders fell 4 points. See U.S. Department of Education, NCES, *NAEP 1994 Reading: A First Look* (Revised edition), table 2.

[10]U.S. Department of Education, NCES, *NAEP 1992 Mathematics Report Card for the Nation and the States*, table 2.1.

[11]*The Condition of Education 1996*, 224, based on NCES, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1992; Mathematics, 1973 to 1992; Reading, 1971 to 1992; and Writing, 1984 to 1992*, 1994.

[12]U.S. Department of Education, NCES, *The 1990 Science Report Card*, p. 10.

[13]*The Condition of Education 1996*, 74, based on NCES, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1992; Mathematics, 1973 to 1992; Reading, 1971 to 1992; and Writing, 1984 to 1992*, 1994.

[14]Ibid., 240, based on College Entrance Examination Board, *National Report: College Bound Seniors, 1972–1995* (Copyright © 1995 by College Entrance Examination Board. All rights reserved).

[15]Ibid., 58, based on NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94); and idem, 94, based on NCES, High School and Beyond (HS&B) study 1980 Sophomore Cohort, Base Year, First, and Fourth Follow-up Surveys.

[16]Ibid., 201, based on U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

[17]Ibid., 58, based on NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94); and idem, 94, based on NCES, High School and Beyond (HS&B) study 1980 Sophomore Cohort, Base Year, First, and Fourth Follow-up Surveys.

[18]Ibid., 247, based on NCES, High School and Beyond (HS&B) study 1980 Sophomore Cohort, Base Year, First, and Fourth Follow-up Surveys.

[19]Ibid., 55, based on U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

[20]Ibid., 58, based on NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94); and idem, 94, based on NCES, High School and Beyond (HS&B) study 1980 Sophomore Cohort, Base Year, First, and Fourth Follow-up Surveys.

[21]Ibid., 204, based on U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

[22]Ibid., 215, based on NCES, 1993 Baccalaureate and Beyond Longitudinal Study, First Follow-up (B&B:93/94).

[23]Ibid., 212, based on NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

[24]Ibid., 56, based on NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

[25]Ibid., 205–207, based on NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

[26]Ibid., 206–207, based on NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

[27]Ibid., 208–209, based on NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

[28]Ibid.

[29]Ibid., 208–10, based on NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

[30]Ibid., 205–207, based on NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

[31]U.S. Department of Education, NCES, *Digest of Education Statistics, 1995*, table 256.

[32]*The Condition of Education 1996*, 60 and 215, based on NCES, 1993 Baccalaureate and Beyond Longitudinal Study, First Follow-up (B&B:93/94).

[33]Ibid., 116, based on NCES, Recent College Graduates Surveys (1977–90) and 1993 Baccalaureate and Beyond Longitudinal Study, First Follow-up (B&B:93/94).

[34]Ibid., 108, based on NCES, 1993 Baccalaureate and Beyond Longitudinal Study, First Follow-up (B&B:93/94).

[35]U.S. Department of Education, NCES, *Digest of Education Statistics, 1995*, table 257.

Other NCES Publications

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The Condition of Education, 1996. Washington, D.C.: 1996 (NCES 96-304)

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